Application Serial No.: 10/027,902 PATENT Amendment and Response Dated May 7, 2004 3596.02-3

IN THE CLAIMS:

Please cancel pending claims 1-29 without prejudice or disclaimer.

Please examine new claims 30 to 59.

- 30. (New) A combustible fuel composition of combustible liquid fuel and an additive as a clear microemulsion having water present, wherein said combustible liquid fuel is selected from the group consisting of diesel fuel, kerosene, heating oil, coal slurry oil and distilled vegetable oil and said additive comprises:
 - (a) ethanol having between 0.5 and 25% water by volume of ethanol;
 - (b) one or more alcohols selected from the group consisting of:
 - (i) straight- or branched-chain alcohols having between 3 and 5 carbon atoms
 - (ii) straight- or branched-chain alcohols having between 6 and 12 carbon atoms, and
 - (iii) ethoxylated alcohols having between 6 and 18 carbon atoms, where the ethylene oxide add-on is less than 5 moles.
 - (c) a fatty acid of the structure R-{C=O}-OH, wherein R is alkyl or alkylene having between about 10 to 24 carbon atoms, in combination with ammonia or urea in an anhydrous state or as an aqueous solution;

wherein components a, b, and c, as the additive when combined with mixing with diesel fuel form a clear, stable microemulsion fuel composition having a viscosity within 10% of the original viscosity of the diesel fuel, and wherein the ratio of diesel fuel to additive ranges from about 50:50 to 99:1 by volume, with the proviso that water is present in the composition sufficient to form the microemulsion and with the proviso that certain ethylene oxide condensation and ethylene oxide esterification products are completely eliminated.

- 31. (New) The combustible fuel composition of claim 30 where the ratio of combustible liquid fuel to additive is between about 65:35 to 80:20.
- 32. (New) The combustible fuel composition of claim 30 where the ratio of combustible liquid fuel to additive is between about 80:20 to 90:10.
 - 33. (New) The combustible fuel composition of claim 30 wherein:

in subpart (a) the alcohol is ethanol having between 0.5%-25% by volume of ethanol;

in subpart (b) one or more alcohols selected from the group consisting of:

(b)(i) straight- or branched-chain alcohols having between 3 and 5 carbon atoms,

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- (b)(ii) straight- or branched-chain alcohols having between 6 and 12 carbon atoms, and
- (b)(iii) a fatty alcohol of the formula:

in subpart (c) the ammonia or urea is present sufficient to neutralize 40-80% of the fatty acid and completely eliminated are the following compounds:

the ethylene oxide condensation or esterification product formed with (i) an alkyl phenol of the formula:

$$R'_1 = \begin{bmatrix} O(CH_2CH_2O)_n H \\ I \end{bmatrix}$$

where R'₁ is a alkyl chain having up to 8 carbon atoms and n is an integer from 5 to 20; (ii) a fatty acid of the formula:

(iii) a fatty alcohol of the formula:

$$R'_2$$
—(OCH₂CH₂)_nOH

wherein R'₂ is a long-chain, saturated or unsaturated hydrocarbon radical containing 12 to 18 carbon atoms, and n is an integer from 5 to 30;

(iv) a polyol having the formula:

$$HOCH_2$$
— $(CHOH)_n$ — CH_2OC — R'_3

wherein R'₃ is a long-chain, saturated or unsaturated hydrocarbon radical containing 12 to 18 carbon atoms, and n is an integer from 1 to 4; or

(v) a polyol and long-chain fatty acid having the formula:

$$H(OCH_2CH_2)_{n1}$$
 — OCH_2 — $(CHOH)_{n2}$ — CH_2OC — R'_3 0

wherein R'₃ has the meaning given above, n_1 is an integer from 5 to 30 and n_2 is an integer from 1 to 4.

34. (New) The combustible fuel composition of claim 30 wherein:

in subpart (b) the alcohol of

(b)(i) is selected from straight- or branched-chain alcohols having between 3 and 5 carbon

atoms, with the proviso that

- (b)(ii) is excluded, and
- (b)(iii) is selected from ethoxylated alcohols having between 6 and 18 carbon atoms, where

the ethylene oxide add-on is less than 5 moles.

35. (New) The combustible fuel composition of claim 30

wherein in subpart (b) the alcohol (b)(i) is excluded,

- (b)(ii) is selected from straight- or branched-chain alcohols having between 6 and 12 carbon atoms, and
- (b)(iii) is selected from ethoxylated alcohols having between 6 and 18 carbon atoms, where the ethylene oxide add-on is less than 5 moles.
- 36. (New) The combustible fuel composition of claim 30 wherein: in subpart (b) the alcohol

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- (b)(i) is excluded,
- (b)(ii) is excluded,
- (b)(iii) is selected from ethoxylated alcohols having between 6 and 18 carbon atoms, where the ethylene oxide add-on is less than 5 moles.
- 37. (New) The combustible fuel composition of claim 30 wherein: the ratio of subparts (a):(b):(c) is between about 60:35:5 to 60:20:20.
- 38. (New) The combustible fuel composition of claim 30 wherein: the ratio of subparts (a):(b):(c) is between about 50:40:10 to 50:25:25.
- 39. (New) The combustible fuel composition of claim 3 where the ratio of combustible liquid fuel to additive is between about 90:10 to 99:1.
- 40. (New) A combustible fuel composition of combustible liquid fuel selected from diesel fuel, kerosene, heating oil, coal slurry oil and distilled vegetable oil and an additive as a clear microemulsion with water present wherein said additive comprises:
 - (a) ethanol having between 0.5 and 15% water by volume of ethanol;
 - (b) one or more alcohols selected from the group consisting of:
 - (i) straight- or branched-chain alcohols having between 3 and 5 carbon atoms
 - (ii) straight- or branched-chain alcohols having between 6 and 12 carbon atoms, and
 - (iii) ethoxylated alcohols having between 6 and 18 carbon atoms, where the ethylene oxide add-on is less than 5 moles;
 - (c) a fatty acid of the structure R-{C=O}-OH, wherein R is alkyl or alkylene having between about 10 to 24 carbon atoms, in combination with ammonia or urea in an anhydrous state or as an aqueous solution and the ammonia or urea is present sufficient to neutralize about 40-80% of the fatty acid;

wherein components a, b, and c, as the additive when combined with mixing with diesel fuel form a clear, stable microemulsion fuel composition having a viscosity within 10% of the

original viscosity of the diesel fuel, and wherein the ratio of diesel fuel to additive ranges from about 50:50 to 99:1 by volume, with the proviso that water is present in the composition sufficient to form the microemulsion and with the proviso that certain ethylene oxide condensation and ethylene oxide esterification products are completely eliminated.

41. (New) The combustible fuel composition of claim 40 wherein;

in subpart (b) the alcohol (b)(i) is excluded, (b)(ii) is straight- or branched-chain alcohols having between 6 and 12 carbon atoms, and (b)(iii) is ethoxylated alcohols having between 6 and 18 carbon atoms, where the ethylene oxide add-on is less than 5 moles.

42. (New) The combustible fuel composition of claim 40 wherein:

the ratio of subparts (a):(b):(c) is between about 50:40: 10 to 50:25:25.

43.(New) The combustible fuel composition of claim 40 wherein:

the ratio of subparts (a):(b):(c) is between about 60:30:10 to 60:20:20.

- 44. (New) The combustible fuel composition of claim 40 where the ratio of diesel fuel to additive is between about 65:35 to 80:20.
- 45. (New) The combustible fuel composition of claim 40 where the ratio of diesel fuel to additive is between about 80:20 to 90:10.
- 46.(New) A combustible fuel composition of combustible liquid fuel selected from diesel fuel, kerosene, heating oil, coal slurry oil and distilled vegetable oil and an additive as a clear microemulsion with water present wherein said additive comprises:
 - (a) ethanol having between 5 and 10% water by volume of ethanol;
 - (b) one or more alcohols selected form the group con sisting of:

- (i) straight- or branched-chain alcohols having between 3 and 5 carbon atoms
- (ii) straight- or branched-chain alcohols having between 6 and 12 carbon atoms, and
- (iii) ethoxylated alcohols having between 6 and 18 carbon atoms, where the ethylene oxide add-on is less than 5 moles.
- (c) a fatty acid of the structure R-(C=O)-OH, wherein R is alkyl or alkylene having between about 10 to 24 carbon atoms, in combination with ammonia or urea in an anhydrous state or as an aqueous solution and the ammonia or urea is present sufficient to neutralize about 40-80% of the fatty acid;

wherein components a, b, and c, as the additive when combined with mixing with diesel fuel form a clear, stable micro emulsion fuel composition having a viscosity with "10% of the original viscosity of the diesel fuel, and wherein the ratio of diesel fuel to additive ranges from about 50:50 to 99:1 by volume, with the proviso that water is present in the composition sufficient to form the microemulsion and with the proviso that certain ethylene oxide condensation and ethylene oxide esterification products are completely eliminated.

47. (New) The combustible fuel composition of claim 46 wherein;

in subpart (b) the alcohol of (b)(i) is excluded, (b)(ii) is straight- or branched-chain alcohols having between 6 and 12 carbon atoms, with the proviso that (b)(iii) is ethoxylated alcohols having between 6 and 18 carbon atoms, where the ethylene oxide add-on is less than 5 moles.

48. (New) The combustible fuel composition of claim 46 wherein:

the ratio of subparts (a):(b):(c) is between about 50:30:20 to 50:25:25.

49. (New) The combustible fuel composition of claim 46 where the ratio of diesel fuel . to additive is between about 65:35 to 80:20.

- 50. (New) The combustible fuel composition according to claim 46 wherein the ratio of combustible liquid fuel to additive is between about 65:35 to 90:10.
- 51. (New) The combustible fuel composition according to claim 46 wherein the combustible fuel is kerosene.
- 52. (New) The combustible fuel composition according to claim 51 wherein the ratio of kerosene to additive is between about 65:35 to 80:10.
- 53. (New) The combustible fuel composition according to claim 30 wherein the combustible fuel is heating oil.
- 54. (New) The combustible fuel composition according to claim 53 wherein the ratio of heating oil to additive is between about 65:35 to 90:10.
- 55. (New) The combustible fuel composition according to claim 30 wherein the combustible fuel is coal slurry.
- 56. (New) The combustible fuel composition according to claim 55 wherein the ratio of coal slurry to additive is between about 65:35 to 90:10.
- 57. (New) The combustible fuel composition according to claim 30 wherein the combustible fuel is a distilled liquid derived from renewable resources such as vegetable oil.
- 58. (New) The combustible fuel composition according to claim 57 wherein the distilled liquid is derived from soybeans, safflower, sunflower, linseed, cottonseed, corn, rapeseed, or tall oil.
- 59. (New) The combustible fuel composition according to claim 57 wherein the ratio of distilled liquid derived from renewable resources to additive is between about 65:35 to 90:10.